

September 29, 2022

Ms. Kimberly D. Bose
Secretary Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Transmitted via email

Subject: Additional NGO Comments on Rumford Falls Project Updated Study Report with Study Requests

Dear Secretary Bose:

Inland Woods and Trails, the Appalachian Mountain Club, Maine Rivers, the Friends of Richardson Lake, American Whitewater and Maine Council of Trout Unlimited (NGOs) submit these additional comments that dispute the validity of certain water quality studies and include study requests for additional study sites for the Rumford Falls Project P-2333 that comprehensive review of the Updated Study Report (USR) dated August 5, 2022 and Initial Study Report (ISR) dated August 6, 2021 indicates are necessary. The final Water Quality Study Report has not yet submitted, and these requests are subject to further review when the complete report has been provided.¹

Background

The NGOs provided comments on the Rumford Falls Project Draft License Application and Updated Study Report in their August 31 filing to the FERC docket. These included:

“The NGOs request additional Water Quality Studies to meet MDEP protocols and the requirements of Maine water quality statutes, and will initiate a request to this effect to MDEP by separate correspondence.

Temperature and DO studies in the area below Upper Dam

Macro-invertebrate studies in the area below Upper Dam, especially the large pools immediately below the dam as well as any other pools

Impoundment Trophic State Study of the canal area below Middle Dam.”

This letter further explains our rationale for these comments and includes formal FERC Study Requests for additional study sites. Without the information from these sites, the project will be under-informed making a complete NEPA analysis impossible. Specifics follow.

¹ USR, page 4-2, Table 4-1, Study Status, footnote 1:” As specified in the ISR, the results of the Outlet Aquatic Habitat Study component of the Water Quality Study are presented in this USR and the results of the additional trophic sampling will be filed with the Commission as a supplement to the FLA soon after the sampling is completed. All other water quality sampling has been completed and the results are provided within the ISR.

Discussion

MDEP policy and protocols are stated in Methods for Biological Sampling and Analysis of Maine's Rivers and Streams, Susan P. Davies and Leonidas Tsomides, Revised April, 2014; DEP Sampling Protocol for Hydropower Studies, September 2019. Page 3 of the latter: "Sampling should also occur in any bypassed segment of the river created by the project."

The DO and macroinvertebrate studies did not include the reach below Upper Dam. The industrial canal is a construction that is physically separated from the Middle Dam impoundment. Its character is different from that of the Middle Dam impoundment that occurs on the main stem of the river. A separate Impoundment trophic state study should have been conducted.

No studies were conducted in the reach below the Upper Dam even though this reach is actually the main stem of the Androscoggin River, it is described as a "bypass" because it is dewatered most of the year. Minimum flows at 1 cfs – all available water in the river is run through the turbines most of the year. "A Cross-Section Flow Study is required that measures width and depth at various flows to determine the flow at which at least 75% of the bank full cross-sectional area of the river or stream is continuously watered. At least three cross sections representative of the river or stream must be measured."² This is obviously not the case for the reach below Upper Dam. While there may be some short stretches of dewatered area that may be considered of inconsequential habitat value, this approach makes little sense with Rumford Falls, the largest waterfall in the U. S. east of Niagara. As the NGOs stated in our earlier filing: "Reference to Google Maps shows the location of two large pools immediately below Upper Dam that persist for most of the summer months.³ As there is only leakage flow feeding these pools, one must assume that they would entrap fish and other aquatic organisms and that the stagnant water they contain would not sustain their lives."⁴ We have included the annotated image in a large scale as Attachment A for your convenience. We have also attached a LIDAR image of the reach as Attachment B to show the location of a third pool.

Conclusion and Requests

That FERC Staff conduct a comprehensive review of water quality study reports included in the ISR and USR. The NGOs did not see the study discrepancies above until considering the contents of all the water quality studies, one of which still remains incomplete as previously noted. Attachments C,⁵ D,⁶

² DEP Sampling Protocol for Hydropower Studies, September, 2019, page 4.

³ Imagery of the area below Upper Dam accessed at

<https://www.google.com/maps/place/Rumford,+ME+04276/@44.5381696,-70.5440009,210m/data=!3m1!1e3!4m5!3m4!1s0x4cb17d61fb89f9f9:0xbf89e1a4e6304e23!8m2!3d44.5536606!4d-70.5508829>

⁴ Inland Woods and Trails, the Appalachian Mountain Club, Maine Rivers, the Friends of Richardson Lake, and Maine Council of Trout Unlimited letter dated August 31, 2022, Subject: NGO Comments on the Draft License Application (DLA) and Updated Study Report (USR) for the Rumford Falls Hydroelectric Project (FERC No. 2333). Page

⁵ Rumford Falls Initial Study Report, page A-3, Figure 1.

⁶ Id., page A-3, Figure 2.

and E⁷ are supplied to show the deployment for the water quality studies of concern. Please note that the macroinvertebrate sampling station shown in Attachment E is apparently co-located with the Middle Dam bypass reach continuous water temperature and DO monitoring station. Please note that the project has two “bypass” reaches (actually the main stem of the Androscoggin River) in addition to the natural channel of the river and that only one reach was sampled. Please also note that the terminus of the industrial canal functions as a third dam. The studies conducted ignored the reach below the Lower Dam as well as the reach where the flows from the Lower Station Development again rejoin the natural river channel. These are major omissions that will render appropriate NEPA analysis of project effects impossible. Attachment F is supplied to indicate nominal locations for sensor deployment for additional sites needed to cover the complexities of the Rumford Falls Project and its multiple bypass reaches, as well as the main channel. Locations shown are nominal, and would be subject to consultation with MDEP.

That based on these facts and the provisions of 18 CFR § 5.15, FERC approve the additional study sites included as Attachments G, H and I.

It was also noted when preparing this letter that the location of the Middle Dam Canal DO Sampling Station does not conform to MDEP protocols and thus should be repeated and conducted in accordance with the established standards.⁸ The sampling location was apparently chosen for ease of access.

Sincerely and respectfully,

Inland Woods and Trails
Karen Wilson
At-Large Member of Board of Directors

Appalachian Mountain Club
Mark Zakutansky
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President, Board of Directors

⁷ Id., page A-3, Figure 3.

⁸ DEP Sampling Protocol for Hydropower Studies dated September 2019, page 3: “Sampling shall occur in the tailwater downstream from the turbine/gate outlet or dam at a location representative of downstream flow as agreed by DEP on a case by case basis.”

ATTACHMENTS:

- A – Google Map imagery of the area below Upper Dam
- B – LIDAR Study of Upper Rumford Falls Project
- C – Map of Tropic State Sampling Stations
- D – Map of Continuous Water Temperature and DO Monitoring Stations
- E - Map of Location of Macroinvertebrate Sampling Station
- F – Map of nominal proposed additional water quality study sites
- G - Impoundment Trophic State Study
- H - Downstream Temperature and Dissolved Oxygen Study
- I - Benthic Macroinvertebrate Study

ATTACHMENT A



ATTACHMENT B



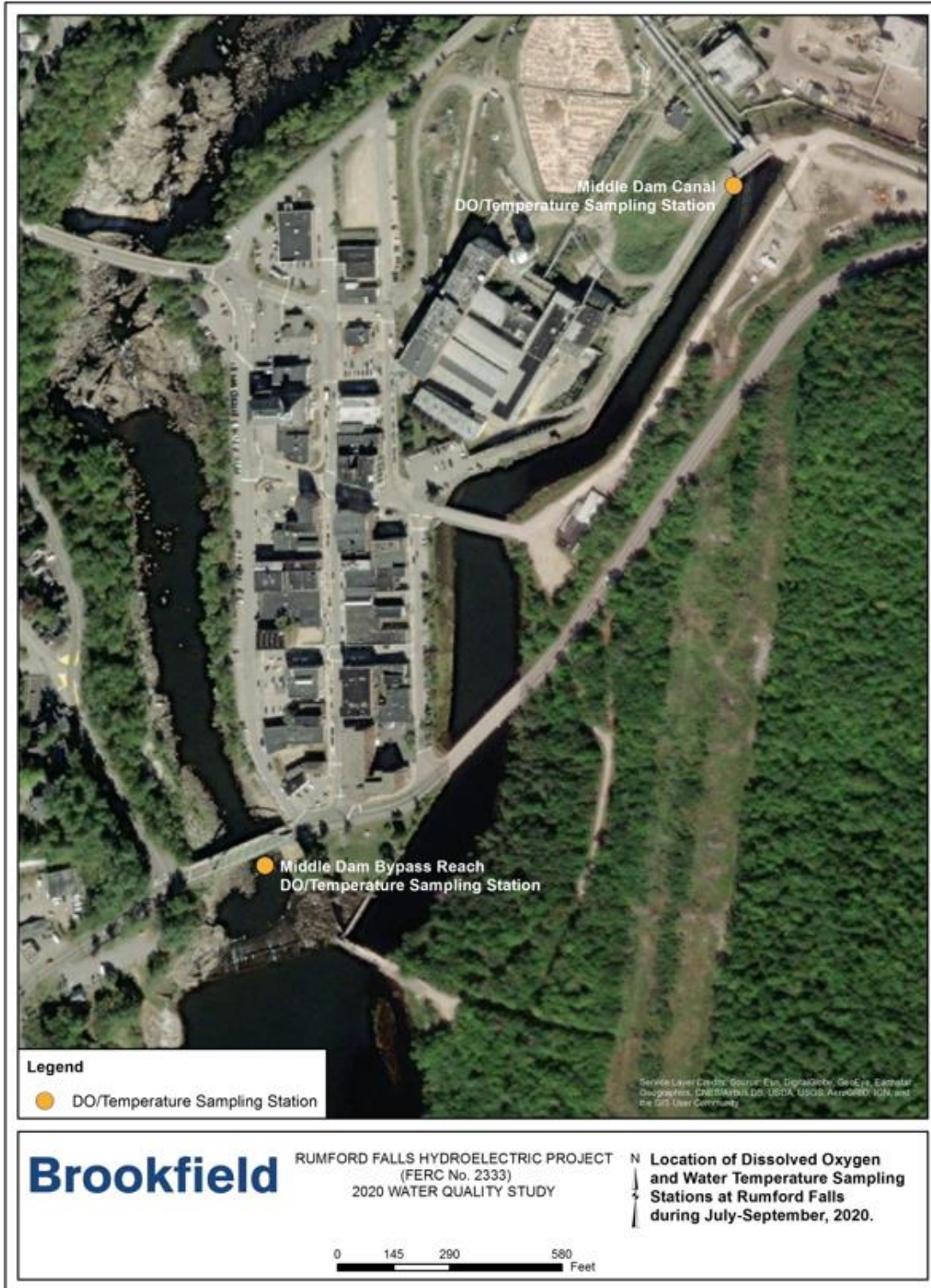
additional pool

ATTACHMENT C



Path: J:\Projects\Brookfield_RumfordFalls\MXD\RumfordFalls_TrophicState_071321.mxd

ATTACHMENT D



ATTACHMENT E



Path: J:\Projects\Brookfield_RumfordFalls\MXD\RumfordFalls_Benthic_071321.mxd

ATTACHMENT F

Additional sampling sites requested by NGOs, locations nominal



Attachment G

Impoundment Trophic State Study

1. Describe the goals and objectives of each study proposal and the information to be obtained.

Trophic state is an important indicator of water quality within the impoundment. Assessment of this criteria provides information to evaluate the health of the Rumford Falls impoundment and the impact of the dam structure and operation on the Androscoggin River. The objective of this study is to determine if the project impoundment meets Maine Water Quality Standards, including dissolved oxygen and the designated use of recreation in and on the water. As noted below and in the MDEP PAD comments, the trophic state study is required because the project impounds the Androscoggin River over a surface area of approximately 419 acres with a reported storage capacity of 2,900 acre-feet. This study will assess whether the trophic state of the impoundments are stable or improving.

2. If applicable, explain the relevant resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied.

The resource management goal is to evaluate attainment of Maine Water Quality Standards pursuant to the provisions of the *Water Classification Program*, 38 M.R.S. Sections 464-468 and to certify attainment of such, with any necessary conditions, under Section 401 of the Federal Water Pollution Control Act (a.k.a. Clean Water Act).

3. If the requestor is not a resource agency, explain any relevant public interest considerations in regard to the proposed study.

The requestors are non-governmental organizations (NGOs). Maine's rivers, great ponds and wildlife are, by law, public resources. The Androscoggin River is used extensively by members of the NGOs for a wide range of recreational activities. The NGOs have a direct interest in the waters affected by project operations.

4. Describe existing information concerning the subject of the study proposal, and the need for additional information.

Water Quality Studies reported in the Initial Study Report included impoundment trophic state studies for the Impoundments above Upper Dam and Middle Dam, but not the industrial canal that is a separate impoundment with different characteristics. It would be inconsistent for a separate study not to be undertaken.

- 6. Explain any nexus between project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements.**

Data collected will be used to identify the trophic state of impounded waters and may identify stratification effects on the dissolved oxygen within the impoundment. Information will be used to evaluate whether the project meets Maine water quality parameters, which will inform the water quality certification process and the NEPA analysis.

- 7. Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate field season(s) and duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge.**

The DEP Sampling Protocol for Hydropower Studies (most recently revised in September 2019) was established by Department staff and has been used successfully throughout the State by the DEP and others.

- 8. Describe considerations of level of effort and cost, as applicable, and why proposed alternative studies would not be sufficient to meet the stated information needs.**

Trophic state samples are collected twice each month for five consecutive months during open water season. Costs are considered reasonable given that this study is required for Maine water quality certification and is routinely completed at hydropower projects being relicensed in the State. No alternatives to this study are proposed.

Attachment H

Downstream Temperature and Dissolved Oxygen Study

- 1. Describe the goals and objectives of each study proposal and the information to be obtained.**

Temperature and dissolved oxygen (DO) are important indicators of water quality to ensure that discharges from the hydropower project are sufficient to maintain the resident biologic community downstream of the Rumford Falls dams. Assessment of temperature and DO data in the downstream reaches will be used to determine if the hydropower project meets Maine Water Quality Standards including Class C DO criteria.

- 2. If applicable, explain the relevant resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied.**

The resource management goal is to ensure attainment of Maine Water Quality Standards pursuant to the provisions of the *Water Classification Program*, 38 M.R.S.A. Sections 464-468 and certify attainment of such, with any necessary conditions, under Section 401 of the Federal Water Pollution Control Act (a.k.a. Clean Water Act)

- 3. If the requestor is not a resource agency, explain any relevant public interest considerations in regard to the proposed study.**

The requestors are non-governmental organizations (NGOs). Maine's rivers, great ponds and wildlife are, by law, public resources. The Androscoggin River is used extensively by members of the NGOs for a wide range of recreational activities. The NGOs have a direct interest in the waters affected by project operations.

- 4. Describe existing information concerning the subject of the study proposal, and the need for additional information.**

Dissolved oxygen concentrations downstream of the Rumford Falls dams must meet Maine water quality criteria for Class C waters. The studies report in the Initial Study Plan did not cover the reach below the Upper Dam and did not cover the reach below the outflow of the Lower Station Development. Additionally, the industrial canal DO sampling station location was not in accordance with Maine Department of Environmental Protocols and appears to have been chosen for convenience.

- 5. Explain any nexus between project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements.**

Data collected will be used to evaluate project effects on water temperature and DO concentrations in the Androscoggin River downstream of the Rumford Falls dams. Information will be used to evaluate whether the project meets Maine DO criteria for Class C waters and will inform the water quality certification process and NEPA analysis.

- 6. Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate field season(s) and duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge.**

The DEP Sampling Protocol for Hydropower Studies (September 2019) was established by Department staff and has been used successfully throughout the State by the DEP and others.

- 7. Describe considerations of level of effort and cost, as applicable, and why proposed alternative studies would not be sufficient to meet the stated information needs.**

The DEP Sampling Protocol for Hydropower Studies (September 2019) offers two options for the temperature and DO study that can be completed in one field season. Temperature and DO samples can be collected one day per week for at least 10 weeks or measured hourly using data sondes placed at designated locations during summer low flow, high water temperature conditions (e.g. July and August). The Department prefers the second method. Costs are considered reasonable given that this study is required for Maine water quality certification and is routinely completed at hydropower projects being relicensed in the State. No alternatives to this study are proposed.

Attachment I

Benthic Macroinvertebrate Study

1. Describe the goals and objectives of each study proposal and the information to be obtained.

Assessment of the benthic macroinvertebrate community is critical to determine whether current in-stream flow releases affect attainment of Maine habitat and aquatic life criteria for Class C waters in the Androscoggin River below the Rumford Falls dams. The assessment provides biological data to evaluate potential impacts caused by project operations.

2. If applicable, explain the relevant resource management goals of the agencies or Indian tribes with jurisdiction over the resource to be studied.

The resource management goal is to ensure attainment of Maine Water Quality Standards pursuant to the provisions of the *Water Classification Program*, 38 M.R.S.A. Sections 464-468 and certify attainment of such, with any necessary conditions, under Section 401 of the Federal Water Pollution Control Act (a.k.a. Clean Water Act)

3. If the requestor is not a resource agency, explain any relevant public interest considerations in regard to the proposed study.

The requestors are non-governmental organizations (NGOs). Maine's rivers, great ponds and wildlife are, by law, public resources. The Androscoggin River is used extensively by members of the NGOs for a wide range of recreational activities. The NGOs have a direct interest in the waters affected by project operations.

4. Describe existing information concerning the subject of the study proposal, and the need for additional information.

The Androscoggin River must meet Maine aquatic life criteria in the vicinity of the Rumford Falls Project. The studies report in the Initial Study Plan did not cover the reach below the Upper Dam and did not cover the reach below the outflow of the Lower Station Development. Techniques exist that can conduct the sampling despite dominance of bedrock in the bypass reaches, described in *Methods for Biological Sampling and Analysis of Maine's Rivers and Streams*, Susan P. Davies and Leonidas Tsomides, Revised April, 2014, pages 2 and 3.

5. Explain any nexus between project operations and effects (direct, indirect, and/or cumulative) on the resource to be studied, and how the study results would inform the development of license requirements.

Only one sampling station was included in the Initial Study report, located in the Middle Dam Bypass. Additional sampling should have occurred in the pools below Upper Dam and the reach below the Lower Station Development. No benthic macroinvertebrate studies were conducted in these reaches. Macroinvertebrate data will inform the water quality certification process and NEPA analysis.

- 6. Explain how any proposed study methodology (including any preferred data collection and analysis techniques, or objectively quantified information, and a schedule including appropriate field season(s) and duration) is consistent with generally accepted practice in the scientific community or, as appropriate, considers relevant tribal values and knowledge.**

The DEP Methods for Biological Sampling and Analysis of Maine's Rivers and Streams (August 2002, revised April 2014) was established by Department staff and has been used successfully throughout the state by DEP and others since 1983.

- 7. Describe considerations of level of effort and cost, as applicable, and why proposed alternative studies would not be sufficient to meet the stated information needs.**

Replicate benthic macroinvertebrate sample collectors (rock baskets or cones) are deployed for a 28-day study period in the tailrace reach of the hydropower project during low flow, high temperature conditions. Samples must be collected by a professional aquatic biologist and evaluated by a professional freshwater macroinvertebrate taxonomist. Methods are documented in the DEP manual Methods for Biological Sampling and Analysis of Maine's River and Streams (August 2002, revised April 2014). Costs are considered reasonable given that this study is required for Maine water quality certification and is routinely completed at hydropower projects being relicensed in the State. No alternatives to this study are proposed.